



DESIGN TO 3D PRINT (PRO)

Take your 3D design skills to the professional level and create functional multi-part products ready for 3D printing.



CERTIFICATION READY

Prepare for ACU Tinkercad Certification Assessment



ADVANCED DESIGN SKILLS

Use SketchUp to create accurate, multi-part products



ENGINEERING & PROBLEM SOLVING

Apply design thinking to solve design challenges



PRINT READY

Prepare and export models for 3D printing



DURATION

2 DAYS
(FULL TIME)



TIME

10:30 AM –
5:30 PM



SUITABLE FOR

STUDENTS,
DESIGN ENTHUSIASTS
& FUTURE ENGINEERS



TVET
Smart Choice
Bright Future



FOR
STUDENTS



FOR
PROFESSIONALS



FOR
TEAMS



Shortcourse
Programme

TRAINING OUTLINE

This 2-day programme combines ACU Tinkercad Certification preparation with advanced SketchUp product design to build industry-ready skills.



DAY 1

ACU TINKERCAD CERTIFICATION PREPARATION & ASSESSMENT



1. INTRODUCTION TO ACU CERTIFICATION

- ACU Tinkercad certification framework
- Assessment structure & requirements
- Certification benefits & industry relevance



2. ADVANCED TINKERCAD SKILLS REVIEW

- Shape manipulation techniques
- Advanced alignment & grouping
- Hole features & complex shapes
- Precision measurements & dimensions
- Creating functional components



3. EXAM PREPARATION ACTIVITIES

- Guided practice tasks
- Time management strategies
- Troubleshooting design challenges



4. MOCK ASSESSMENT

- Simulated ACU examination tasks
- Independent modelling activities
- Instructor feedback & improvement



5. ACU TINKERCAD ASSESSMENT

- Certification assessment session



DAY 2

ENGINEERING DESIGN CHALLENGE WITH SKETCHUP & 3D PRINTING



1. DESIGN THINKING & PROBLEM SOLVING

- Identifying real-world problems
- Brainstorming practical solutions
- Sketching design concepts
- Planning multi-part assemblies



2. ENGINEERING DESIGN CHALLENGE

Design a functional product that solves a real-life problem.

Requirements:

- ✓ Minimum 2 assembled parts
- ✓ Must serve a practical purpose
- ✓ Must be designed in SketchUp
- ✓ Must be prepared for 3D printing



3. BUILD, TEST & ITERATE

- Creating individual parts
- Designing connectors, slots, hinges
- Virtual assembly & fit testing
- Improving design based on testing



4. 3D PRINT PREPARATION

- Checking model accuracy
- Exporting STL files
- Basic 3D printing considerations



5. PROJECT PRESENTATION

- Explain the problem solved
- Demonstrate assembly process
- Showcase printed prototype

TOOLS & TECHNOLOGIES



Tinkercad



SketchUp Pro



3D Warehouse



STL Export



3D Printer (FDM)

KEY SKILLS YOU WILL GAIN

- ✓ Advanced 3D modelling in Tinkercad & SketchUp
- ✓ ACU Tinkercad Certification readiness
- ✓ Engineering design & problem solving
- ✓ Designing multi-part, functional products
- ✓ Assembly mechanisms: slots, hinges, connectors
- ✓ Preparing models for 3D printing
- ✓ Prototype testing & iterative improvement

WHY JOIN THIS COURSE?



Hands-On Learning
Work on real projects from concept to prototype.



Industry Relevant
Skills used in engineering, product design & digital fabrication.



MTTC Certification
Earn a recognised certificate from MTTC College.



REQUIREMENTS

- ✓ Basic knowledge of 3D design concepts
- ✓ Experience using Tinkercad or other CAD software
- ✓ Understanding of basic measurements and geometric shapes
- ✓ Interest in engineering design and problem solving

